

Wirginia OM/ildlife

Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources and to the Betterment of Outdoor Recreation in Virginia

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COVER: For our full-color Christmas cover this year we have selected Lorton, Virginia, artist Ed Bierly's painting of a wild gobbler in a Piedmont Virginia hardwood forest setting. Our largest and most prized upland game bird, it is slimmer than the domestic turkey and has brown—not white—tail tips.

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Yes, We Want No Gathright Dam

"VIRGINIANS of today still believe in the Jeffersonian doctrine that the least governed people are the best governed. We oppose the vast and increasing concentration of power in the Federal Government at Washington, and we are alarmed by it." This credo of conservatism was pronounced by Virginia's senior U. S. Senator, the Honorable Harry F. Byrd, at Berryville, Virginia, on August 26, 1961. The idea of limited government is dear to the hearts of Virginia and the senior of the senior of

ginians generally. It is being put to a practical test now.

"The Lobby That Can't Be Licked"—the U. S. Army Corps of Engineers and its willing advocates, the local chambers of commerce—is well on its way toward getting a Congressional appropriation of \$30,000 to restudy and find some justification for the construction of the "Gathright multiple-purpose reservoir with hydroelectric power plant and Falling Spring reregulating dam on Jackson River, Virginia." Funds for this project, which was authorized for construction by Congress in 1946, were never appropriated because a study by the Corps in 1949 concluded that the project could not be economically justified. In 1956, the owners of the site, the Virginia Electric and Power Company, after another detailed study of the site's hydroelectric potential, determined that, because of technological developments in the power supply industry, the cost of development on any basis would then exceed by millions of dollars the amount that could be justified by the benefits.

In 1958, convinced that the facts revealed by these expensive and thorough studies had ruled out the construction of such a dam, the Virginia Commission of Game and Inland Fisheries purchased 18,500 acres of land in Bath and Alleghany counties, including 4,000 acres which would have been flooded had the Corps of Engineers-designed dam been built, for a public hunting and fishing area. Now the Game Commission has its back to the wall. Public power and other interests are again clamoring for construction of a "Cathright Dam," and this may come to pass, flooding the productive heart of the Gathright Wildlife Management Area, unless determined opposition from those who wish to preserve state-owned recreational areas for themselves and future

generations is voiced now.

The Gathright Dam is envisioned as a rock-fill 248-foot high structure with a crest length of 900 feet, located in Kincaid Gorge on the Jackson River 19 miles upstream from Covington. It would store over 400,000 acre-feet of water in an impoundment of 3,850 surface acres at maximum power pool elevation (4,500 acres at maximum flood pool elevation), and have a shoreline length of over 60 miles. Eight miles below the Gathright dam, the companion Falling Spring "reregulating dam" 64 feet high would flood out about 300 acres of agricultural land. It would take in the neighborhood of 40 million of your tax dollars and mine to complete the entire project.

Proponents of the project claim that it will alleviate local unemployment and provide hydroelectric power, flood control, pollution abatement, and recre-

ation. We have room here to say only this:

Yes, it may relieve local unemployment temporarily, but why sacrifice Virginia's most popular state-owned public hunting and fishing area to this cause when federal money for depressed areas has already been appropriated?

Efficient electric power production at this site is out of the question. Steam generation plants of 220,000 kilowatts capacity are now being built at a unit cost of about \$130 per kilowatt, while the Gathright dam, with only one-tenth this capacity, would have a unit cost in excess of \$500 per kilowatt.

It is hard to imagine how a Cathright Dam, with a drainage area of little more than three percent of the watershed of the James River (344 square miles to 10,060 for the entire watershed) could have much effect on floods except perhaps in the Covington area, because the flood control effect decreases rapidly with distance downstream from the daw. The Corps of Engineers, which is always protecting one place from flooding by putting another place under water, would build a high structure with a maximum drawdown of 99 feet; its level must be kept low during wet seasons to catch and hold possible flood causing rains and snows, and the bare mudflat margins would be most unattractive. A little flood prevention with less expensive soil and water conservation practices on the upper reaches of the streams, combined with flood plain zoning downstream, would be more effective.

Pollution abatement—diluting downstream wastes with a higher flow of water—is a poor excuse, because the U. S. Public Health Service requires

treatment of wastes at their source.

Thousands of Virginia outdoor lovers enjoy the recreation this area provides now. It's true that "everybody's doing it," asking for federal aid for everything, but this is how free men invite the tyranny of total Government. Yes, we want no Gathright Dam.—M. R. C.

Re: An Early Small Game Season

I THINK that VIRGINIA WILDLIFE is a wonderful magazine and a credit to our state.

Regarding your editorial in the October issue: Since men employed by the Game Commission have secured important data from their study of the habits of game in the state, who would be better qualified than the Commission itself to set proper hunting dates? It would be impossible to set dates that would please everyone, so why not set hunting dates that will assure better game and more hunting in the future?

From a preacher who likes to hunt and fish.

J. D. Hunt III Martinsville, Virginia

CONCERNING the proposals on the game seasons by Mr. Cutler: I'm all for you game specialists setting the seasons. In this area I would see no objection to something like the following: Squirrel—October 15-November 1 (early), then regular November 20 on; small game (quail, grouse, rabbit, etc.)—regular November 20; deer—December 1. It seems that 10 days might help the deer quite a bit.

I'm highly in favor of having the small game season come before deer season because like many I hunt both and hate to be on the fence as to which to try for.

Gents, I'd like to see specific mention in the game law bulletin of the excellent German and Austrian guns known as "drillings" (double shotgun with a rifle barrel underneath). Also, this .23 rifle bore minimum is the sickest caliber designation I've ever heard. It allows the pipsqueak .30 carbine, .25/20, all the blackpowder do-nothings, while it outlaws humpty millions of cartridges that could outdo these wounders, but which should be outlawed also, extra high-powered .22's with 70-grain bullets. Everybody knows that the size of the hole has just about nothing to do with the efficiency of the cartridge. We need a minimum power like that of the .25/35. Nothing should be allowed putting out less foot-pounds of energy.

> Henry Page, Jr. Life member, NRA Member, Cobham Hunt Club North Garden, Virginia

THIS letter is in response to an editorial which appeared in VIRGINIA WILDLIFE (October) asking for ideas about modification of our state small game season. The main thing I'm interested in is squirrel season. For east of the Blue Ridge, I believe that a season running from October 15-January 31 would be good. Why October 15? Well, by this time most of the real young squirrels have left the nest of their mother, and the weather is getting cooler so that you don't have as many "wolves" in the squirrel like you do early in September.

James A. Potts, Jr. Norfolk, Virginia

Wildlife Needs Wetlands



Photo by Allan Cruickshank from N.A.S.

The snow geese which winter in Virginia's Back Bay are just one of many species which are dependent on the presence of wild wetlands for their continued existence.

By FRANK BRIGGS, Assistant Secretary U. S. Department of the Interior Washington, D. C.

UR wildlife heritage in America is a treasure worth saving!

If we are to do this, however, we must look to history for the bleak story of man's misdeeds with natural resources and then get every American to learn to heed the lessons found in that story. Otherwise, history again will repeat itself.

In the early days of our country, the land truly did teem with wildlife. To us today, the numbers reported seem fantastic. Great flights of passenger pigeons in migration darkened the skies. Their numbers were estimated by naturalists even in the billions. The supply seemed inexhaustible. They were slanghtered for the market by any and every means possible—gun, net and club.

But even worse, man destroyed the habitat they needed the great hardwood forests—as he cleared the land on his way westward. These hordes of birds could be supported only by great mast crops from the nut-bearing trees of these forests. The wild turkey also suffered.

Today the passenger pigeon can be found only as a stuffed specimen in a case in a museum. He had joined the ranks of the extinct species.

In the early days, buffalo herds ranged the great plains by the many millions. Man deliberately sought to ex-

Adapted from speech given at meeting to launch the private conservation rampaign for "Wetlands for Wildlife" in Milwaukee, Wisconsin, on June 13, 1961.

terminate them. The animals were decimated by commercial hunters as transportation lines moved westward.

Buffalo exist today on refuges and protected ranges only in the limited numbers permitted by the existing forage. They were in great numbers only when they had the vast prairies for their homes and could range widely and get the food they needed. Men changed that with the plow, wire fence and economic enterprises.

Virgin prairie also was the habitat needed by great flocks of prairie chicken. To the early settlers, these birds seemed to flow unceasingly from a horn of plenty. But, as man overshot, he also changed the habitat the bird required. Today annual reproduction of this fine bird is just a tiny trickle in a few places.

All of this means just one thing: No matter how great a wildlife resource may be, it can be lost if man continues to misuse and sweep bare the countryside of required food and cover.

Today we face a challenge to preserve another and a most important segment of habitat needed by wildlife—our wetlands. Wetlands, meaning lands covered with shallow water for all or part of the year, are the richest of all our wildlife habitats.

The dependence of migratory waterfowl, from the Canada goose to the green-winged teal, on wetlands is so well known as to need little discussion. Our marshes, swamps, bogs, estuaries, shallow streams and lake margins are also essential to other wildlife and form an incidental but valuable part of the habitat of many more.

The wetlands inventory published by the Fish and Wildlife Service recently lists 38 game and furbearing species reported by the various states as making use of one or more of the 20 types of wetlands. The importance of wetlands to these species varied from the casual use by squirrels in the north to the utter dependence of the alligator in the south.

While much of our big game and our upland game does not require water itself except for drinking, and makes little use of aquatic vegetation, wetlands in many areas provide much of the available dense vegetation, valuable as food and cover. This food and cover, not necessarily aquatic in nature, is the main reason for the high value of wetlands to bear, squirrel, rabbits and grouse.

Examples of heavy seasonal use of wetlands are also well known. Pheasants in many areas find their only favorable winter cover is cattail marshes, while moose and deer may spend much of their time in shallow lakes and streams during fly season.

Other groups are more firmly tied to wetlands. These include snipe, rails and raccoons, which do not live in the water, but are definitely wetland inhabitats, as well as muskrat and beaver which not only live in the water, but in the case of muskrat, subsist on aquatic vegetation. The beaver is even an important creator of wetlands.

These water areas—from one coast to the other—also have high fishing values.

The matter of locating these remaining wetlands, so that effective action can be planned to protect and preserve them, has been a subject to which our agency and the state conservation departments have given attention for several years.

The Fish and Wildlife Service, with the cooperation of state fish and game agencies, a short time ago completed a survey of the remaining natural wetlands in each of the then 48 States. This survey covered an estimated 90 percent of the wetlands of significant value to waterfowl and where practical of accomplishment, located and classified wetland areas down to about 40 acres in size.



Congress Acts On Wetlands Acquisition

THE 87th Congress took a positive step toward halting the rapid destruction of wetlands needed by migratory waterfowl when it authorized the appropriation of \$105 million to the U.S. Fish and Wildlife Service for the purchase of prime areas during the next seven years. Agricultural and industrial drainage, highways, airports, and urban expansion arc making alarming inroads into the specialized waterfowl wetlands habitat. The new law gives the Service a means of actively discharging this country's responsibility for protecting migratory birds under the terms of the treaties with Canada and Mexico. The funds will be repaid in full at the end of the program from Duck Stamp receipts. All waterfowl hunters 16 years of age and older are required to purchase a \$3 Duck Stamp each year.

In a second and related action, the House approved and sent to the Senate a short bill, H. R. 8520, which would help to control federal financial and technical participation in the drainage of natural wetlands in Minnesota and the Dakotas. A glaciated area with many water basins called potholes, the tri-state region is the most important waterfowl nesting grounds in continental United States.

Enactment of H. R. 8520 would help eliminate the contradiction in federal programs whereby one agency is using public funds to help drain wetlands while a second is attempting to preserve wetlands to fulfill international agreements. H. R. 8520 has been referred to the Senate Committee on Agriculture and Forestry.

Among other things, the wetland inventory served to focus attention on the importance of wetlands to wildlife and the rapid rate at which these areas were being lost. As a result, in a number of states, even more detailed surveys were inaugurated by state conservation departments as a basis for their future wildlife habitat preservation and restoration work.

The Flyway Councils, representing state fish and game commissions, also have cooperated in the establishment of acquisition plans for wetland areas important to waterfowl.

Your government is not sitting idly by. We are trying to do something. There are about four and one-half million acres of necessary wetlands which we must obtain if we are to keep our migratory waterfowl on an even keel—much less build the flocks. We have asked Congress to "loan" us funds necessary so that we can accelerate and complete that program. We will repay the government, then, from our duck stamp money.

There are many marshes worth saving and they can be saved if the money is available. The next 10 years may be the nation's last chance to save lands for outdoor recreation, park and wildlife use. What we save NOW, may be all we'll ever save!

Remember that large numbers of wildlife can be maintained only if there are large areas of the habitat they require. Wetlands are a vital requirement of many forms of wildlife. Great flights of waterfowl are just part of the creatures which need these areas. What a dreary world we would live in if we were to lose many of these creatures because of man's thoughtless, destructive acts!



"There was the torchlight pursuit of opossum and raccoon to the baying of hound or to the yelping of the slaves' cur."

By EDDIE W. WILSON

HUNTING was carried on in early Virginia not only by the owners of the great plantations and their slaves but also by the frontiersmen in search of new lands. While we are likely to think of the well organized fox bunt on horseback with dogs as the main sport, other forms of wild game were sought with quite different methods.

Vast areas of forest lands were included in such plantations as George Washington's Mount Vernon, George Mason's Gunston Hall. Robert Carter's Nomini Hall, William Byrd H's Westover, Dr. Mann Page's Keswick or Turkey Hill, and William Fitzhugh's Chatham,

Within these forest lands, fox, wolf, bear, panther, deer, rabbit, porcupine, opossum, raccoon, and beaver dwelt in great abundance. Here were also land birds such as wild turkey, partridge, and wild pigeon, whereas in tidewater areas were waterfowl. Of these latter, Thomas Glover in his Account of Virginia, written to the Royal Society of London in 1676, and the Rev. John Clayton in a letter to the same organization in 1688 told of "mighty flocks of geese," of "wild ducks innumerable." and of "wild fowl in some places covering the water for two miles."

Robert Beverley of Blandfield plantation in his *The History and Present State of Virginia*, published in 1705, designates hunting as one of the "Recreations and Pastimes used in Virginia" and gives in detail various procedures employed by hunters and trappers:

They Hunt their Hares (which are very numerous) a Foot, with Mungrils or Swift Dogs, which either catch them quickly, or force them to hole in a hollow Tree, whither all their Hares generally tend, when they are closely pursued. As soon as they are thus holed, and have crawl'd up into the Body of the Tree, the business is to Kindle a Fire, and

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smother them with Smoak, till they let go their hold, and fall to the bottom stifled; from whence they take them. If they have a mind to spare their Lives, upon turning them loose, they will be as fit as ever to hunt another time, for the mischief done them by the Smoak immediately wears off again.

RLY VIRGINIA

HUNTING

They have another sort of Hunting, which is very diverting, and that they call Vermine Hunting. It is perform'd a Foot, with small Dogs in the Night, by the Light of the Moon or Stars. Thus in Summertime they find abundance of Raccoons, Opossums, and Foxes in the Corn-Fields, and about their Plantations; but at other times, they must go into the Woods for them. The Method is to go out with three or four Dogs, and as soon as they come to the place, they bid the Dogs seek out, and all the company follow immediately. Where-ever a Dog barks, you may depend upon finding the Game; and this Alarm draws both Men and Dogs; and then the Sport increases to see the Vermine encounter these little Currs. In this sort of Hunting, they also carry their great Dogs out with them because Wolves, Bears, Panthers. Wild-Cats, and all other Beasts of Prey are abroad in the Night.

For Wolves they make Traps and set Guns bated in the Woods so that when he offers to seize the Bate, he pulls the Trigger, and the Gun discharges upon him.

Regarding wild turkeys, Beverley says:

They have many pretty devices besides the Gun to take wild Turkeys; And among others, a Friend of mine invented a great Trap, wherein he at times caught many Turkeys, and particularly seventeen at one time.

Of beavers, he observes:

These creatures have a great deal of Policy, and know how to defeat all the Subtility and Strategems of the Hunter, who seldom can meet with them, tho' they are in great numbers all over the Country.

Finally. Beverley would tell us:

There is yet another kind of Sport, which the young People take great Delight in, and that is, the hunting of wild Horses; which they pursue sometimes with Dogs, and sometimes without. You must know they have many Horses fooled in the Woods of the Uplands, that never were in hand, and are as shy as any Savage Creature. These having no mark upon them, belong to him, that first takes them. Then he adds that these animals are so swift that "it is difficult to catch them" so "the pleasure lies chiefly in the chace."

Moreover, there was the torchlight pursuit of opossum and raccoon to the baying of hound or to the yelping of the slaves' cur.

To the plantation owner, hunting was a prominent feature in his role of host. Early Virginia was famous for its hospitality. This was an era when visits might be by the honr or day or even by days and weeks. As the Honorable Charles Augustus Murray, second son of George Murray, fifth Earl of Dunmore, who visited Virginia in 1834, remarked: "The hospitality of the old families in the James River area to strangers is not surpassed in any country I

Beaver were abundant in Virginia in the 17th century. Their skins served as a medium of exchange.



have seen." And one of the high lights of this entertainment consisted of the excitement, and sportsmanship of the hunt.

For instance, in the tidewater county of Gloucester, entertaining was a matter of course and dinner-parties were the rule. If a rabbit (uncommon in this area) was caught a signal flag was run up at the Great House as an invitation to dinner to every gentlemen in the neighborhood.



Wild turkeys were trapped in large numbers as well as hunted with guns.

Here it was served rather as a trophy of the hunt as it was not considered an especial delicacy.

Edwin Hall who served as tutor for Dr. Mann Page's children at Keswick plantation wrote to a friend of a partridge hunt with "pointer dogs noted for their power or faculty to smell a flock of partridges 30 or 40 feet away." He adds that "a man in the neighborhood once killed 96

Ruffed grouse were found in a bundance throughout the state.



flying birds at 100 shots."

Mary Johnston who used early Virginia as a background for many of her novels says in *Hunting Shirt*, picturing autumn in the wilderness south of the James River:

Deer moved in herds. The bear shambled along the woodland ways. The opossum lay along the bough. The turkey cock and the turkey hens trod the gay leaves. The partridge had their numbers and the rabbit and the squirrel. Overhead went the birds in migration. Sometimes they dropped downward and rested, then they rose with a vast whir and were gone.

The hunter might have eight or ten deer hanging up in his smoke house at one time for his winter's meat. Deer were so numerous as to be a nuisance to the early settlers' crops and gardens.

The flesh of wild game was a welcome supplement to the planter's table.

William Strachey in his *The Historie of Travell into Virginia Britania* says of Virginia bear meat that it is "toothsome, sweet," and "as good to be eaten as the flesh of a calfe of two yeares old." Of the opossum he says that it cates in tast like a Pig."

The early Virginia cookbooks abound in receipes dealing with wild game. The Williamsburg Art of Cookery or Accomplish'd Gentlewoman's Companion assures us that "From . . . Field and Forest, the Virginia Housewife had a varied and abundant Supply of Meat . . . and the Virginia Gentlemen, good Hunting," and here we are told how to prepare "Salmi of Wild Duck," "Venison Pastry," "Roast Wild Goose," and "Brunswick Stew" whose meat consists of two squirrels. Martha Washington's Cook Book and other cook books of this period contain recipes for roast hare, fricassee of rabbit, roast 'possum with sweet taters, broiled pigeon, pigeon pie, squab pie, stewed duck, roast venison, baked saddle of venison, venison pie, venison soup, venison hashed, spiced duck, duck pie, barbecue of quail, quail-on-toast, boned turkey, and roast turkey with either pecan, peanut or chestnut dressing.

The skins of wild animals were known to serve as currency. Tobacco and corn were the main crops in Northampton County and here tobacco and beaver skins were the mediums of exchange at one time. Also, beaver pelts were in use on the eastern shore of Virginia and in 1637 eight pounds of these skins were sold for 160 pounds of tobacco. And the Virginia Legislature passed an act in 1783 authorizing the payment of one half of taxes in tobacco, hemp, flour, and deer skins.

Hunting laws were made as early as 1738 for the protection of deer, to force owners to keep hounds and beagles tied except when on the chase and to make unlawful the use of fire or the burning over of land in hunting game.

The owners of the great plantations valued the game so highly that they tried to prevent trespassing with guns and dogs on their property. However, this was extremely difficult since their woodlands were so extensive in acreage. Yet there were vast unclaimed areas where all might hunt.

Bears and panthers made such depredations in certain locations that the county of Accomac as late as 1683 offered rewards for their destruction, a feature that added to the excitement of the hunt, whereas in Northumberland County rewards were offered for the killing of wolves.

Today in the woodland of Gunston Hall, deer dwell as they did in George Mason's day. This beautiful home was bequeathed to the Commonwealth of Virginia by Mrs. Louis Hertle and is open to the public.



The cottontail rabbit rarely achieves the abundance it can reach in ideal habitat.

MORE
COVER
FOR
RABBITS

By JOHN B. REDD, JR. District Game Biologist Powhatan, Virginia

Commission Photos by Kesteloo and Harrison

E normally think of the cottontail rabbit as making use of many different types of cover, and it is hard to imagine a shortage of this animal because of the lack of proper cover. The rabbit does make use of many types of environment, but in many areas of our state the rabbit rarely achieves the abundance that this species can reach under ideal conditions.

Many forces are continuously at work reducing the rabbit population until only a few of the original number produced each year are left. Many different elements are responsible for this reduction, the most important of which are factors relating to man's activities, weather, and predation.

The abundance and distribution of the cottontail is affected by land use. Man's activities such as clean farming, more intensive cultivation of his lands, and the use of chemicals for controlling weeds, spront growth and undesirable vegetation are but a few examples of man changing the environment at the expense of the rabbit. Any extensive management plan to increase rabbits on farms must give the primary or agricultural use first consideration, but this is not true on areas devoted to public hunting or to beagle field trial areas.

There are many ways to improve rabbit habitat. They range from simple changes around the farm to large scale developments more suited to the beagle clubs who seek year around rabbit populations on which to train dogs and run competitive trials. Some clubs expect miracles overnight to transform poor living conditions into a rabbit paradise. There is planning, hard work, and time involved in improving any area for rabbits. The important goal to shoot for in planning rabbit habitat improvements is the manipulation of food and cover conditions so that preferred foods and high-quality cover are well distributed throughout the area at all seasons of the year.

Cover has different uses during various seasons of the year. It must be designed to conceal nest and young, protect animals from the heat of the sun and provide shelter from chilling rains. It must be thick enough to allow escape from enemies and strong enough to protect the animals from the snow and wind in winter. All types of cover must be present to furnish complete protection for rabbits,

Nesting Cover

Rabbit nests are cup-shaped holes dug in the ground and lined with grass and fur from the female's body. The young rabbits remain in the nest for about two weeks. While the rabbits are in the nest they are at the mercy of any flesh eating animal. The nest supplies their only concealment and shelter. That is why good nesting cover is so highly important.

Nesting cover consists of open areas, well grassed. Hay fields seem to be a preferred nesting area, but haying operations often destroy much nesting. This destruction of nests can be avoided by leaving a strip of hay uncut near field borders. Most rabbit nests are located near the field edges adjacent to brushy escape cover. Open areas near escape cover can be planted to fescue and sericea lespedcza to provide nesting cover. The nearness of escape cover to nesting cover is important to provide safe travel for the female to and from the nest as well as protection of the young as they leave the nest and begin foraging on their own.

Pastureland that is heavily grazed provides no nesting cover or escape cover. This can be changed by planting



Rabbits' nests (inset) are often located near fences overgrown with

evergreens in scattered clumps. Clumps of briers or cedars fenced out of a pasture will be effective islands of cover.

Other nesting sites can be improved by planting cover or allowing natural vegetation to grow on elevated sites such as ponds, dams, fence rows and terraces. Remember, all nesting sites are more useful if they are near good escape cover.

Escape Cover

Rabbits use escape cover to clude their many enemies. Hedgerows, overgrown fences, brier patches, tangles and thickets along field boundaries, and dense growth along gullies and ditches (honcysuckle) provide excellent escape cover.



Well built brush piles are the best rabbit shelters. The base, which delays rotting, can be made of crossed poles . . .



or flat rocks piled to make entrances. In either case, the pile should be at least 10 feet in diameter.



Layers of smaller branches are laid on to make a weather-proof shelter for several rabbits. Steep sides keep hunters from jumping on pile.



Young rabbits remain in the nest for about two weeks, at the mercy of flesh-eating animals. Good nesting cover will screen them from view.

In fertile places good escape cover will grow and develop by itself if not disturbed. On eroded areas cover must be planted and fertilized. Various species of plants can be planted to furnish good cover. Sericea lespedeza can be established on eroded land and will furnish excellent cover for the growing season and during winter months. Multiflora rose makes good escape and travel cover when planted as a fence.

One important factor to remember in planting cover for rabbits is to space plantings. Several small cover plantings adjacent to food plantings will do more good than one large planting. The windrows left after clearing a field with a bulldozer provide escape cover for rabbits.

Shelter Cover

As the heavy fall frosts mow down natural vegetation, the remaining cover becomes plain to both hunters and predators. To both, the remaining cover standing out in bare fields are signs saying, "hunt for rabbits here." Deterioration of the shelter cover during the winter months means only one thing—fewer and fewer rabbits can be supported, and the remaining rabbits become more vulnerable to predation and exposure.

As indicated above, shelter is important not only as protection against predators but is needed as a shield against the elements. Deep snows, winds, and low temperatures send rabbits to the protection of the heaviest cover available. Suitable cover to satisfy such needs can be created artificially if natural cover is not present.

Brush piles strong and well constructed are probably the best all-around rabbit shelters. Brush piles should be placed in or near durable escape cover and travel cover, such as sericea, overgrown fence rows, and hedges.

There is an art in building good brush piles. Brush piles should be a minimum of 10 to 15 feet at the base and at least five to six feet high. The base should consist of substantial material that will not deteriorate or settle rapidly. First, place the large limbs or small logs (six to eight feet long) on the ground parallel to one another and about 10 inches apart, Second, place a layer of similar material on top and at right angles to the base. Third, place layers of smaller branches and limbs on top of this pile until the desired height is reached. This provides a fairly weather-proof shelter with several entrance or exit holes for rabbits.

Shelter cover can also be provided with proper farm woodland management, where livestock is fenced out of timber-producing areas in order that a brushy undergrowth may become established.



S.C.S. Photo

Muskrats have adapted to life in farm ponds and often damage pond dams. They can easily be trapped, and their pelts have a definite cash value.

By JAMES W. ENGLE. JR.

District Game Biologist

Swoope, Virginia

HE muskrat is normally thought of as an inhabitant of swamps and marshes, but never overlook the fact that it has become adapted to life in creek banks and ponds. It is the most important fur animal in Virginia both in numbers trapped and sold—116,479 in 1959-60 season—and in the revenue that it represents—\$109,222.26 during the same year.

The construction of farm stock ponds, fish ponds and recreational lakes has been a booming program in Virginia for several years. In Augusta County, for example, where there are 2.352 farms, the Soil Conservation Service has given technical assistance to the construction of between 1,200 and 1,400 farm ponds. In addition, many ponds have been constructed without the benefit of their technical advice. Therefore, it is not unreasonable to assume that there are between 2,000 to 2,500 ponds in the county, and this is just one of the 98 counties in the state. While a livestockraising county such as Augusta, which produces more sheep than any other county east of the Mississippi River, may have more ponds than the average, the total number of ponds in Virginia reaches astronomical figures.

Muskrats have a way of showing up in these ponds at places they are least expected. During the spring floods along creeks, the 'rats are forced to leave their normal habitat. Excessive wandering is not at all unusual. Just a few years ago, for example, a neighboring farmer reported a most unusual animal living in his barn. After looking over the conditions, it was concluded that the animal was living in a groundhog hole. One trap and one night later produced a muskrat, and there was not a pond closer than three-quarters of a mile, It was surmised that he was on a spring wandering trip.

The muskrat's breeding season starts in early spring (March and April) and, depending on the length of the summer, they have two, three or four litters of kits. The litter size will vary from two to four. Thus, a population of two muskrats in the spring may grow into a family of 10

or 15 by fall. A muskrat's food is made up entirely of vegetation, and they are very clean little animals. Along with digging roots for food, they are very active in digging burrows, and in a pond this is where the trouble starts.

A well constructed dam on a farm pond rises to four feet above the water line. The fill material is normally clay or loam. If the steep pond banks are close to the water's edge, it is in the dam that the 'rat starts digging his burrow. If you have a pair in the spring and 15 by fall, quite a bit of burrowing can take place. The burrows have the entrance underwater and then extend up into the dam above water level to the bedroom. This digging will soon allow water to leak through the dam; the water level is lowered; new burrows are started below the new lower waterline, and then the dam leaks even more. In a short time the pond is ruined. In addition, other hazards, such as livestock stepping in holes, are created. Soon this valuable furbearer does not have any friends left.

State law provides for the game warden to issue permits to landowners to kill or have killed muskrats doing damage. Muskrats are not seen out in the open very often during daylight hours. Even if considerable time is spent trying to kill the muskrats, it is a very inefficient way of trying to control the little animal. In some valuable ponds, welded fencing buried just below the ground, extending two to three feet below the water level and one or two feet above the water level, provides some protection from burrowing muskrats. Trapping takes time, and a muskrat swimming out of his underground entrance will swim over a trap and not be caught.

Recently the Animal Trap Company, makers of the well known Victor Trap, patented and put on the market a trap known as the "Conibear Trap." These traps work on a different principle than catching an animal by its foot. The trap has two squares that are folded in such a manner that the animal passes through the squares. In doing this, a trigger is tripped and the animal is caught around the middle and killed. The Conibear is a natural for setting over muskrat burrows under water. It is almost impossible for the animal to trip the trap without being caught. These traps would appear to be the best help a pond owner could have to rid his

The new, humane societyapproved Conibear trap is a natural for setting over muskrat burrows under water.



pond of muskrats. Several thousand dollars were saved at the Game Commission's Stevensville Fish Hatchery this year by use of these traps. Normally, the muskrats do considerable damage in the spring. This year they were all trapped except those in one hole that came out of eight feet under the water. The price of the traps is very much in line with the price of any other good muskrat trap.

If you have a pond, you're going to have muskrats. You cannot have a pond and muskrats for long and still have a good pond. Therefore it seems that the Conibear trap is the answer to the pond owner who wants to get the muskrats out of his pond in the most efficient manner.

Muskrat Control Hints

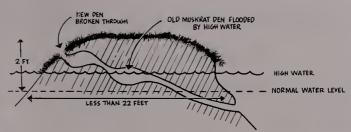
"Ordinarily the two most hazardous parts of a farm are the dam and the spillway. Possibly the most successful way of protecting these is to riprap them with stone. This process adds to the cost of construction but if it's well done, muskrats cannot penetrate the structure."

> -Lawrence V. Compton Soil Conservation Service

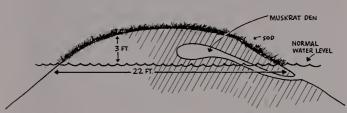


Commission Photo by Kesteloo

A population of two muskrats in the spring may grow into a family of 10 or 15 by fall.



This dam was not properly constructed. The steep slope encouraged digging, rising water due to inadequate spillway forced the muskrat to dig higher and farther, and a breakthrough resulted.



This properly constructed dam, with adequate freeboard and steady water level, permits safe, dry dens that are not likely to cave in.

"One of our most vexing problems is the damage done by muskrats to earth fills. A recent publication 'Control of Muskrat Burrow Damage in Earthen Dikes,' by Arthur H. Cook, N. Y. Fish and Game Jour. 4(2):213-218, 1957, sheds some light on the alleviation of this problem. Cook's conclusions were: (1) Extent of burrow damage could not be related to presence or absence of vegetation at the site of damage; (2) Netting of ferrous metals was found to be impractical because of high cost and rate of breakdown (including cutting by muskrats); Aluminum netting deteriorated rapidly in acid, organic soils; (3) Vertical barriers of asbestos-cement sheets proved most practical both in preventing and remedying damage; (4) Berms, under certain conditions, proved to be effective deterrents to muskrats; (5) Chemical control with calcium carbide may be temporarily effective; and (6) Abundant muskrats failed to damage some dikes built of inorganic, heavy clay soils.

"The vertical installation of 4×8 -foot asbestos-cement sheets proved effective and relatively inexpensive. In damaged fills a mechanical ditcher was used to dig a trench that permitted installation of the sheets so that approximately two feet was below normal water level. This was done at a cost of about \$0.50 per linear foot. It is likely that the upper edge of the sheet should be six inches below the ground surface, i.e. in a $41/_2$ -foot trench.

"Asbestos-cement sheets are reported to be relatively unaffected by ordinary ranges of acidity, and probably—according to manufacturing chemists—become more rigid in contact with water.

"Where excess soil is available from large spillways it can be used to form a berm upstream from dikes. No damage was found in five such berms.

"In Missouri, it is reported, holes are punched at three-foot intervals along the upstream face of dams two feet to three feet above the water's edge. These holes, made with a bar or auger, are run slightly deeper than the water level. In each hole a few grains of calcium carbide are dropped and the hole tamped shut. This is said to keep out muskrats for a time. Calcium carbide is toxic to fish, but its effects when so used are unknown."

—PHILIP F. ALLAN
Soil Conservation Service

Deer Harvests From A Virginia Military Area

By STUART P. DAVEY and JAMES F. RODGERS

A T the close of World War II. the pace at military areas in Virginia slowed, and during the next few years ecological succession and protection offered the resident white-tailed deer populations an opportunity to expand. The result was that these military areas soon had higher densities of deer than any other areas in Virginia.

Cheatham Annex was one such military installation. Located in York County along the York River and extending over 2,804 acres between Kings Creek and Queens Creek, the area abounded in deer within a few years after the war. Largely forested with mature loblolly and Virginia pine and second-growth oak, hickory, beech, gum. tulip, poplar, maple, and sycamore, the area afforded wooded protection and the abundance of honey-suckle.

Hunting on such a military base was not seriously considered until 1953, when it became evident that the deer were rapidly destroying their food supply. Hunting on military areas presents problems that had discouraged hunting the deer. The matters of security, fuel and ammunition dumps, and just who would hunt were important safety and public relations considerations.

In 1954, however, it was decided that deer hunts would be held. Six different hunts were held that first year, and, with only antlered bucks being legal, 139 hunter days resulted in a harvest of 36 deer. After the season. Conservation Ranger J. F. "Buck" Rodgers located five additional deer that had been crippled and died.

A description of these hunts is in order. Because the area is small and military in nature, the hunts have to be strictly controlled. The areas to be hunted are selected, and deer stands marked at the side driven to. The stands are 110 yards apart and placed so vision is clear in both directions. For these hunts at least 60 men are preferred, and more make more efficient driving. The hunters are divided into three groups by a drawing, and while two groups drive the area, the third group mans the stands. Drivers are not permitted to carry firearms, and those on the stands are permitted to use only shotguns of 10, 12, or 16 gauge with buckshot

At prearranged signals, standers load their gnus and the drivers begin their movement, making appropriate sounds

S. P. Davey, formerly staff assistant with the Virginia Commission of Game and Inland Fisheries, is now a biologist with the U. S. Fish and Wildlife Service; J. F. Rodgers is Conservation Ranger, U. S. Department of Defense, Cheatham Annex, Virginia.

which are supposedly certain to move the deer forward. As the gap closes, the deer bound across the line or back through the drivers.

Table I gives the record of the Cheatham Annex hunts since their inception in 1954. The acres hunted represent the acres regularly driven.

In 1955 either sex was legal, and hunting pressure tripled. The 187 deer tagged represented a harvest of nearly 42 deer per square mile. In addition, 31 deer were found dead after extensive searching by Ranger Rodgers.

Since the food supply appeared critically low in the fall of 1956, hunting pressure was again doubled to almost the point of diminishing returns. The 974 hunters involved in 32 hunts harvested 313 deer. The hunts were too numerous and cripples not properly reported that year, according to Ranger Rodgers, because intensive search located 59 dead deer and an additional 24 deer that were down and had to be dispatched—a total of 83 or 30 percent of the legal take. A known total of 396 deer were killed on the area that year, an average of nearly 88 per square mile.

The main objective of the 1957 hunts was to eliminate crippling and to reduce hunting pressure. The number of hunters was reduced by 75 percent, and the harvest also dropped by 75 percent to 83. Crippling loss was reduced by immediately following all reportedly hit deer. In 1957, no deer was found either dead or crippled after the season.

In 1958, the same number of hunts were held as in 1957, but pressure was increased by about 50 percent, and the harvest also jumped 50 percent to 120 deer.

Conservation Ranger Rodgers has kept records of numbers of deer observed during patrols each August since 1956. These figures have been: 1956—2,800; 1957—2,200; 1958—1,900; 1959—783; 1960—714.

These would indicate a definite drop of at least 50 percent since 1956. The hunt record's only supporting evidence lies in the fact that the number of hunter hours per deer bagged has increased from 10 in 1955 to 15 in 1956 to 18 in 1957 and 1958 to 31 in 1959 and 30 in 1960.

The range is in good shape visually. No overbrowsing is in evidence. The deer are fat and in good health, and the cutting of pine has opened much of the forest floor to sunlight and honeysuckle is taking over.

Complete records of harvested deer have not been kept due to a shortage of state technical help, the military nature of the area, and the fact that the population may or may not be finite, access to other areas being possible across the tidal creeks and marshes.

The best number of decr to harvest on Cheatham Annex may come from trial and error, but all evidence points to a carrying capacity figure for the range of approximately 80 deer per square mile, or a deer to eight acres. This should permit an annual harvest of over 20 deer per square mile, or 90 in all, still excellent deer production.

Table 1. Deer Hunting Records at Cheatham Annex, Virginia

						De	er Horvesi	ted	Hun	ting Effort Man Days	Hunting	g Success	Crippl	ing Loss	
Year	Acres Hunted	No. Hunts	Buck	Doe	Total	Man Days	Per Sq. Mi. Hunted	Man Days Per Deer	Hours Per Deer	Number Known	Percent	Remarks			
1954	600	6	36	0	36	139	139	3.85	19	5	14	Antlered only			
1955	1.000	20	62	125	187	400	265	2.14	10	31	17	Either sex			
1956	1,000	32	124	189	313	974	650	3.11	15	83	26	Either sex			
1957	1,000	7	44	39	83	227	150	2.74	18	0	0	Either sex			
1958	1.000	7	27	93	120	381	250	3.13	18	1	1	Either sex			
1959	1,500	6	47	17	64	331	140	5.17	31	2	3	Either sex			
1960	1,000	10	37	31	68	335	240	4.93	30	_	_	Either sex			

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GAME COMMISSION OPPOSES GATHRIGHT RESERVOIR-FALLING SPRING REREGULATING DAM PROJECT. The

U. S. Senate earlier this year approved an appropriation of \$30,000 for a restudy of the Gathright Reservoir and Falling Spring Reregulating Dam project by the U.S. Army Corps of Engineers. Congress adjourned without taking action on this appropriation, but proponents of the project are expected to go ask Congress again next year for approval of the restudy appropriation. The Virginia Commission of Game and Inland Fisheries opposes this project. The reasons behind its opposition were stated in the following resolution passed by the Commission on April 28, 1961:

WHEREAS, the Flood Control Act of 1948 authorized construction of Gathright Reservoir and Falling Spring Reregulating Dam on the Jackson River near Covington, Virginia; and

WHEREAS, the Congress did not deem it desirable to appropriate funds for construction of such a water development; and

WHEREAS, subsequent studies by the Corps of Engineers indicated that the economics of the project is marginal and placed the project in a "deferred for restudy" category; and

WHEREAS, the Virginia Electric and Power Company while in possession of the "Gathright Property" made studies of its development both with and without the assistance of the Federal government and concluded that the cost of development would exceed by many millions of dollars the amount that could be justified by the benefits; and

WHEREAS, the Virginia Electric and Power Company disposed of its interests in the "Gathright Property" in the belief that changed conditions make a wonderful game preserve out of what formerly was considered a good site for a hydro-electric power station; and

WHEREAS, the Commission, with the approval of the United States Fish and Wildlife Service, purchased the "Gathright Property" under a Pittman-Robertson project and invested in its improvement and established the T. M. Gathright Wildlife Management Area; and

WHEREAS, there has been evidenced an interest in the restudy of the Gathright-Falling Spring Project; and

WHEREAS, the Commission is of the opinion that the existing wildlife management area is much more valuable to the State than the water development project, originally authorized; and

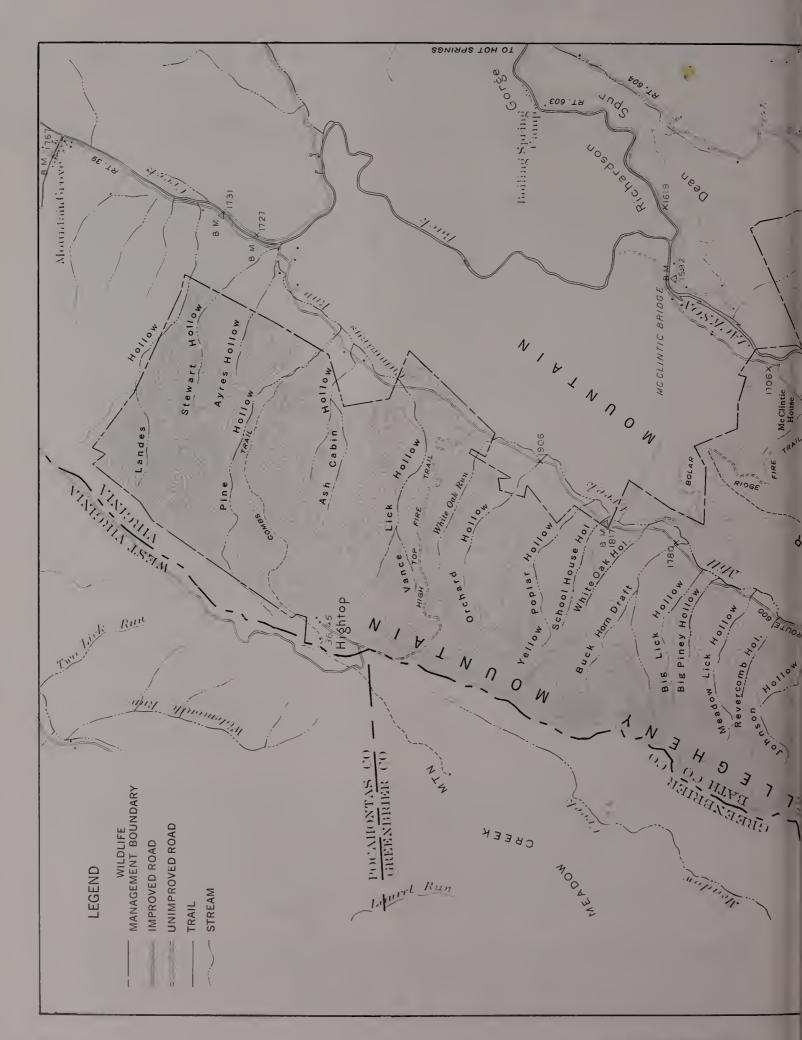
WHEREAS, the Commission is also of the opinion that if any water development is needed it can better be accomplished by means other than the construction of a major impoundment; and

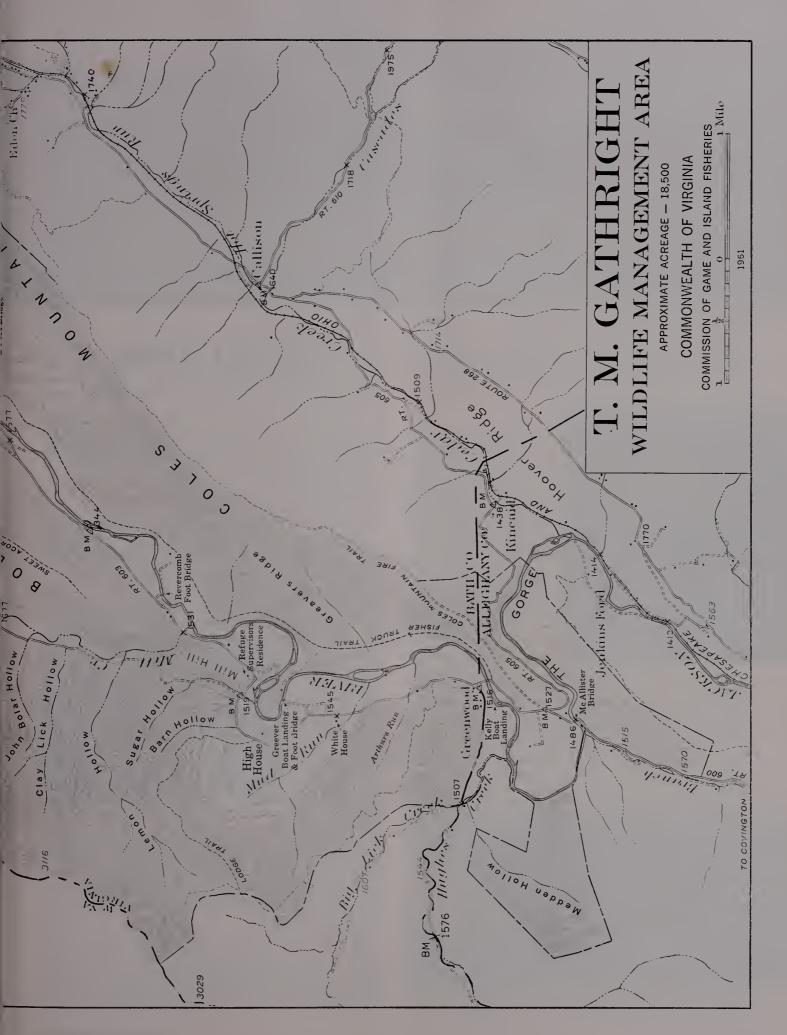
WHEREAS, the Commission having gone on record as opposing the Gathright-Falling Spring Project; now

THEREFORE BE IT RESOLVED, that the Commission of Game and Inland Fisheries is opposed to a combination hydro-electric and flood control project which will flood a large part of the T. M. Gathright Wildlife Management Area and render other substantial portions inaccessible, but that the Commission would consider cooperating in a study of some other method of assisting in flood control and recommends a study by the Soil Conservation Service on the water development benefits that would accrue from the establishment of a series of small watershed projects on the various tributaries of the Jackson River and, further, that such a study consider development of all resources of the area in such a manner as to best meet the interests of all the people of the Commonwealth.

USE THE MAP ON THE NEXT TWO PAGES TO PLOT THE EFFECT OF THE PROPOSED GATHRIGHT DAM ON THE GATHRIGHT WILDLIFE MANAGEMENT AREA. Find the contour line for elevation 1,650. All of the bottom land lower than this elevation, from Kincaid Gorge upstream, would be flooded. (The level of the power pool would be 1,639 feet; the flood pool level would be 1,665 feet.)

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The T. M. Gathright Wildlife Management Area

THE 18,500-acre T. M. Gathright Wildlife Management Area was purchased in July 1958 by the Virginia Commission of Game and Inland Fisheries, It was the first of a number of areas which were, and are, being obtained by this Commission to furnish the sportsmen of Virginia with large tracts managed specifically for public hunting and fishing. Bordering on West Virginia, 16,000 acres of the area are in southwestern Bath County and 2,500 acres are in northwestern Alleghany County.

The property was purchased from the Virginia Electric and Power Company and the heirs of T. M. Gathright for \$350,000 under a Pittman-Robertson project authorization in which one-fourth of cost is paid from the state game protection fund (state hunting and fishing license sales receipts) and three-fourths is paid from funds collected as a federal excise tax on sporting arms and ammunition and appropriated back to the states. Some \$20,000 is spent by the Commission each year to maintain and improve the area for wildlife production and sportsman use.

The tract has long been famous as a hunting area, and also contains 14 miles of the Jackson River, which is rich in bottom fauna and productive of fish. Deer, turkey, grouse, quail, rabbit, raccoon, and squirrel are found in abundance on the uplands, as well as a few bear, and native smallmouth bass, rock bass, pickerel



Kincaid Gorge (at left) once visualized as the site of a hydroelectric power dam, is now part of the state-owned Gathright public hunting and fishing area. The topography of this recreation area is very rough and includes parts of Allegheny, Bolar, and Coles Mountains. These run in a northeast-southwest direction and are separated by Mill Creek and Jackson River. The elevation ranges from 3,600 feet at High Top on Alleghany Mountain to 1,450 feet in the Jackson River gorge.

Commission Photo by Cutler

and sunfish as well as stocked rainbow and brook trout await the angler in the river and its tributaries. Furbearers, including mink, muskrat and beaver, are present in good numbers on the area, and small flocks of waterfowl use the area's wetlands during migration.

The area is accessible from 11ot Springs by seven miles of paved road (Routes 615 and 687) and three and a half miles of gravel road (Route 603). From Covington, the area is accessible by 12 miles of paved road (Routes 220, 687, 641, 666 and 600). Hunter and fisherman access throughout the area itself has been improved by the erection of signs, the improvement of roads and trails, the construction of three footbridges, and the provision of campsites.

Sportsmen are requested not to enter or use any of the buildings on the area, or remove any fruit, herbs, shrubs or timber without the written consent of the resident game refuge supervisor, William A. "Andy" Huffman of Route 1, Hot Springs, from whom a permit must also be obtained to use the camping areas. The campsites will be open during the first week only of the general open hunting season, the bow season, and the trout season.

A valid state or county hunting license is all that is required to hum this area although a deer-bear-turkey license and the appropriate county damage stamp are also required of hig game hunters. No turkey hunting is permitted except during spring gobbler seasons, if any, because turkeys are being live trapped on this area for release in unoccupied range in southwestern Virginia. Bolar Ridge is closed to all hunting. Uncased guns are prohibited on the area except during the general open hunting season. Fishing regulations which apply are those for Bath and Alleghany counties.—M. R. C.



HICKORY LODGE

Text and Photos by JAMES T. RUTHERFOORD Radford, Virginia

MAN needs some place where he can be Commander-in-Chief." Tom Gathright often said. "Whether it's a den at home, a shack in the woods or a tent on a riverbank, a man should have a place where he can be Boss, To me, Hickory Lodge is that place." And it was.

Few Virginia sportsmen who today hunt and fish on the 18.500-acre Gathright Wildlife Management Area realize the heritage that is theirs by virtue of the fortunate purchase of this land in 1958 by the Virginia Commission of Game and Inland Fisheries.

The Commission-owned property was once a part of the sprawling Hickory Lodge game preserve, owned and operated as a private hunting and fishing club by the late Thomas Morton Gathright.

Known variously to his friends as "T. M.." "Mort," "Tom" and "Uncle Tom," Gathright was a big man with big ideas. When he made up his mind to purchase and develop certain lands in Bath and Alleghany counties for his "hunt club" he did it in a big way. "T. M." didn't stop until he had acquired more than 30.000 acres, with some 20 miles of excellent bass and trout water flowing through it.

Much of the land lying within the Jackson River watershed was purchased by Gathright while he was acting as agent for the now-defunct Columbia Gas and Electric Company shortly after World War 1. The utility had plans for building a hydro-electric power plant in Kincaid Gorge of the Jackson, not far from the Bath-Alleghany line. According to agreement, however, Gathright was to retain full use of this land until such time as it might be flooded by the dam. Many more acres of timbered land were purchased outright by Gathright himself. The long talked about power project has never materialized.

dim Ratherfoord, Outdoor Editor for the Radford News Journal and Radio Station WRAD, was born in Richmond and raised in Goochland County. He lived and worked on the Hickory Lodge property as Mr. Gathright's secretary, steward and "assistant host" from 1934 through 1933, and has bonted and fished the property since 1933. He served as special game warden on the property, having been appointed by Commission Secretary Mac Hart in 1935, He is a past president of the Radford Chapter of the Izaak Walton League of America.



During the period 1900-1930, T. M. Gathright and his wife, Martha, acquired the land which makes up the present Gathright Wildlife Management Area, and between 1932 and 1947, "Uncle Tom" Gathright operated the property as a private hunting club having 100 members. The membership fee was \$150 per member per year. As a service to this club, Mr. Gathright maintained Hickory Lodge (shown above) and charged a fee of \$10 a day for room and board for the time the members spent at the lodge. In 1947, Mr. Gathright's health began to fail and the club was disbanded. During his lifetime, he instituted many wildlife habitat improvement practices on this land which later became widely accepted by professional wildlife managers and which helped account for the high game populations for which the area was—and still is—famous.

A rambling log, brick and frame dwelling on the property, the original portion of which was built in 1732, was remodeled for use as a clubhouse. Much later, about 1936, a log barn on the property was torn down and its big timbers were used in the construction of an additional three-story bunkhouse for guests which overflowed the main Lodge during the peak of the hunting and fishing seasons. This building, known as the High House, is still in use as quarters for members of the Commission's field force when it is necessary for them to be in the area.

Hickory Lodge was famous among a select group of sportsmen for well over 30 years. During this time, from the early 1920's until Uncle Tom's death in 1956, the property was operated in accordance with his then some-



A fine catch of Jackson River rainbows (circa 1935). For many years the Jackon, within the Lodge boundaries, was stocked with fingerling trout. Mr. Gath right set a minimum size limit 10 inches on

what radical ideas of game management. Many of his ideas and practices have since been adopted by game management people throughout the country.

Although the wooded area of the property, which comprised about two-thirds of the total acreage, abounded in ruffed grouse and squirrels, it was almost devoid of other game. Much of the timber was harvested, and the secondgrowth cover and browse made it ideal habitat for deer.

Gathright bought and imported a number of white-tailed deer from the vicinity of Ironton, Ohio, and released them on the preserve. These 15 or so imported deer had much to do with increasing the deer herd to its present major proportions. Also deer hunting was not a favorite sport of most of the lodge members, most of whom preferred feathered

game, so the deer were, for many years, left to multiply undisturbed. In later years, local hunters were allowed to harvest a few deer in an effort to keep their numbers in check, but hunting on the herd was always quite low. In 30 years of hunting the Hickory Lodge property, during Mr. Gathright's lifetime, the writer never failed to get his deer. All but two were well-antlered bucks,

To augment the small wild turkey population, "T. M." bought additional wild birds from the famous Woodmont Club in Maryland and released them at various places on the property. Although these birds had been raised in captivity, no difficulty was experienced in getting them to "go wild." Perhaps this was because there were no tame turkey flocks within miles and very little domestic poultry on the property.

Turkey hunting was a major sport at Hickory Lodge, and a few were released nearly every year to offset a heavy harvest of the big, wily birds. By the mid-1930's it was not unusual to observe several flocks of from 15 to 25 turkeys on the same day while patrolling the property.

Gathright had a great love and concern for all his game. but the turkeys were his pets. An ardent and skillful turkey hunter himself. he loved to teach others the art of concealment against the sharp eyes and quick wits of the big Toms, and he would work by the hour with any hunter who really wanted to learn the art of calling with one of a variety of turkey "callers" in his collection at the Lodge.



After a day of fishing by the Lodge guests, the "help" worked late into the night cleaning the fighting Jackson River smallmouths.

DECEMBER, 1961







Famous men hunted at Hickory Lodge: at left, Seth Gordon with son, Seth, Jr., and a mixed bag of turkeys and grouse taken at Hickory Lodge about 1936, when the senior Gordon was director of Pennsylvania Game Commission; center, a nice bag of Hickory Lodge turkeys by (left) R. M. Tutwiler, Mt. Hope, W. Va., Sen. Fred Walcott, Conn., Dr. Ira Gabrielson, Washington, D. C., Richard Clemmer, Waynesboro, Va., T. M. Gathright (host), and Seth Gordon, Jr., Harrisburg, Pa.; and right, "Uncle Tom" (left) and the late Senator Fred Walcott, of Connecticut, in 1935, with a fine pair of wild turkeys. The senator's big gobbler weighed 26 pounds.

Also he spared no expense—of which there was much—in caring for his flocks. Food patches and waterholes were planted and built far back in the woods so that the birds would not be exposed to the dangers of civilization by moving near human habitation in search of food or water.

Proof that these methods were successful is found today in the large flocks of turkeys on the Gathright area. Protected from hunters, except for a short "gobblers only" season last spring, many "Hickory Lodge" turkeys have been live-trapped by Commission technicians for release in other suitable areas in the state.

Nor was the welfare of the other Hickory Lodge game neglected.

Every field in the more than 4,000 acres of lowland had one or more food patches planted in it. These were fenced off against grazing or eropping. Fence rows were allowed to grow up to provide additional food and cover for small game. Frequently entire fields, not easily accessible to cropping or cultivation, were planted to buckwheat, millet, Egyptian wheat, rye, sorghum and other mixed seed crops. Others were green with turnips, rape and rye that were favored by the deer as extra tidbits.

In years of low mast yield, corn and other grains were seattered in the woods or placed in feeding stations for use by the turkeys, grouse and squirrels.

Block salt was provided for the deer at selected spots along the motor trails that wound through the property. These "licks" were strictly "off-limits" to hunters, but they were a favorite spot for sportsmen, staying over a weekend, to observe the deer on a Sunday afternoon.



The late Congressman Clifton A. Woodrum (center), of Roanoke, with friend and "Jack," the Lodge handyman and butler, displaying a two-day bag of gray squirrels taken in 1937.

Predator control was worked out on a cooperative basis with a local trapper who was given his room and board and the revenue from the skins he took in return for services in trapping foxes, bobeats, opossums, raccoons and skunks. In the early days good use was made of now illegal snares and deadfalls, along with regular steel traps, and many game and egg destroyers were removed from their nocturnal depredations by the old trapper. Stray eats and dogs were shot on sight by any hunter in the area.

The Jackson River was, and is, a naturally fine bass stream, and during the days of dollar-a-day boatmen, floating the Jackson for smallmouths, rock bass and pickerel was a favorite summer sport.

In those early days, the trout season opened in April



The "Gibbs Cabin," built by the author for W. W. Gibbs, then president of Clifton Forge-Waynesboro Telephone Company in 1937, is now used by the resident supervisor of the management area.

and closed about the third of July. Since the bass season opened just one day before the trout season closed there was little overlap of the two sports.

Much trouting was done on the little stream known as Mill Run, which was entirely within the preserve. This stream was annually stocked with both brook and rainbow fingerlings from the federal hatchery at White Sulphur Springs, W. Va. Later, when some of us discovered good rainbow fishing in the treacherous waters of the Jackson in Kincaid Gorge, the stocking program was extended to the main river. Since the fishing pressure was comparatively light, the fishing remained good and the stocking of fingerlings gave the sportsmen much wilder tront to catch.

Nearly all angling was done with fly rods and flies or

spinners. Bait fishermen were the exception, not the rule.

The Hickory Lodge guest book reads like a "Who's Who" of the conservation and sporting world.

Senator A. Willis Robertson of Virginia, co-author of the well-known Pittman-Robertson Bill, was a close friend of Tom Gathright and a frequent visitor at the Lodge where he enjoyed both the excellent grouse shooting in the fall and the trouting in the spring. Later, the Senator was to see the purchase of Hickory Lodge land made possible by funds derived from the legislation he sponsored.

The late Sen. Fred Walcott of Conn., well-known conservationist and member of the Senate Wildlife Committee under F.D.R., came to the Lodge for both quail and turkeys.



The comfortable living room of Hickory Lodge was a gathering place for the great and near-great who visited the Lodge for hunting, fishing, warm hospitality, and good food.

The Senator was a crack shot and frequently used a 28 gauge Ithaca double for quail shooting.

Dr. Ira Gabrielson, then Chief of the U. S. Biological Survey, now President of the Wildlife Management Institute, shot turkeys on the preserve and admired the tender, loving and expensive care that "T. M." lavished on his wild creatures.

Seth Gordon, then Executive Director of the Pennsylvania Game Commission and until recently head of the California Fish and Game Department, came to hunt the wily bronze giants, bringing with him his son, Seth, Jr.

Holman Willis, prominent Roanoke attorney, and father of Game Commissioner Holman Willis, Jr., was a regular visitor. His ready wit and priceless dialect stories brightened many a winter evening before the crackling log fire in the living room of Hickory Lodge. Commissioner Willis recently told this writer that his long and active interest in hunting, fishing and conservation began with those early trips to "the lodge" with his father.

A frequent visitor in the later years was Arthur Godfrey, well-known radio and television personality, himself an ardent sportsman and conservationist.

The years after World War II brought an end to the operation of Hickory Lodge on its original scale. Failing health and high labor costs forced "T. M." to reduce his "membership" list to just a few of his closest friends. But the warm hospitality, good food and good fellowship was still a part of the good life at Hickory Lodge.

The eighty-and-more full years of "Uncle Tom's" life conded in 1956, after a long illness. But he had lived to fulfill his dream and to build a monument unto himself, where he was Commander-in-Chief.

His monument lives today as the T. M. Gathright Wildlife Management Area.

Field Care of Your Game - -

"Now That You've Got It, What're You Gonna Do With It?"

(Part One - Big Game)

By BILL SIZER

Arizona Game and Fish Department

PINIONS regarding the one "best" method of field dressing any given species of wildlife are almost as varied as the number of "best" recipes for preparing the meat. Even the finest recipe in the world, though, applied to the finest specimen of wildlife ever taken by a sportsman is worthless if the meat has been ruined by careless handling before it reaches the kitchen.

With this thought in mind we have prepared this article; not so much for the veteran outdoorsman who already has his tried and true methods of taking care of his wild meat, but for the novice or first-time hunter who walks up to his fallen quarry and wonders "what next?"

Assuming that you've completed a successful stalk and have downed your game, don't go loping up and leap astride it to stab it with your trusty knife. It might not be dead yet, and you may end up in worse condition than your intended victim.

Better approach it from behind and boot it in the rump a few times—or whop it with a rock to see if it moves before you begin reducing it to table fare. The eyes will help you determine if it's dead or not. Touch them with something, and unless the "critter" is completely out they'll blink. They'll also begin to glaze as soon as it dies.

At this point it's wise to remember the law, which says that the game is not legally yours until you have tagged it with the tab from your big game license. Making it legally yours, therefore, should be the next thing you do. Then you can begin converting it to meat for the locker.

Many old-timers insist that an animal must be bled before you even begin to dress it out, and most tenderfoot hunters accept this notion with reverent disregard for the fact that unless you killed it with a club (which is unlawful as well as dangerous) it has probably bled internally already. About the only exception to this would be in the case of a head shot, and even then you'll be bleeding it in a few minutes when you field dress it, so why bother to slit its throat?

A lot of words have been used up on the subject of removing the scent glands which are located on the legs of most big game animals, but the truth of the matter is that the glands don't function after the animal is dead so there's really no reason to remove them. You should, however, avoid touching them while you're handling the carcass since the scent will cling to your hands and might taint the meat where you touch it. These glands look for all the world like long scabs, and are located under those wild tufts of hair which stand stright out from the animal's lower legs.

Assuming that you've made sure your game is dead and have taken care of the tag, the first actual step in the process of converting him into steaks and roasts is to slit his belly from crotch to breastbone.

Reprinted with the permission of the author, this material, originally published in booklet form, will be presented in three installments.

You and your cousin Charlie and the guy next door could spend several stimulating evenings around the campfire discussing whether to slit the belly from front to rear or vice versa, but when you finished your arguments you'd end up deciding it doesn't matter much whether you start at the back or the front, so long as you keep in mind a couple of very important items. The first of these is to remember that your prize is already dead and you don't need to rear back and stab him with all your might. Instead, you should carefully pull up a small bit of hide and start your cut, being careful not to slit anything but the belly skin and flesh. If you make like the villain in a grade B movie thriller and stab him, you soon have a mess of punctured "insides" to contend with. Having the head aimed downhill so the internal organs slide forward toward the chest area will help you avoid cutting too deeply.

Once you get your cut started, slip your finger under the point of your knife and keep it there until you have com-



pleted slitting the belly. Your finger will keep the sharp point of the knife from puncturing something you won't want punctured.

Just how far forward your cut should continue is also a good point to discuss if you like to argue. Eventually you'll want to cut all the way to the brisket, and will find that an ax does the job more easily although it can be accomplished with a knife. If you're in the field alone, though, you might want to leave the chest cavity intact while you pack the "critter" back to camp. It's less messy that way.

What is probably the only tricky part of the entire field-dressing process comes next. This is the removal of all those surplus parts just south and slightly forward of the tail. A good way to start is by cutting around the vent with a sharp pointed knife to free the organs in the pelvic cavity. Some hunters pull the colon out and knot it or tie it with a piece of string to keep excrement from spilling outo the meat. When these organs are freed, they can be pulled forward with the rest of the entrails. You'll find that removing the genitals (or mammaries of a female animal) is simplest if you cut along both sides to free them at the point where they enter the body. Avoid puncturing the bladder.

While it is not absolutely necessary to split the pelvis of animals the size of deer, you'll probably find you can do a neater job if you do so. After you slice through the meat to reach the bone, you'll find that if you start the blade in



To split the pelvis with a knife, slice through the center of it with the edge of the blade.

the suture your hunting knife will usually do the job with the aid of a few taps with a rock.

When you get the pelvic region cleaned out—either before or after you open the abdominal cavity—it's a good idea to wrestle the carcass around so the entrails can roll out downhill. Everything will usually come out without much trouble except the stomach at the point where it passes through the diaphragm. This never fails to hang up and you'll have to reach in and cut the front of the stomach loose. Free the liver by cutting behind it. Many people consider this a great delicacy, so don't throw it away.

After you have emptied the abdominal cavity you'll have to cut around the diaphragm and pull out the lungs and heart. The heart makes good camp meat, too, especially if you don't like liver, so you might as well save it.

Pull the lungs back and reach past them to sever the windpipe as far up as you can reach, and after you drag this mess out all that remains is to prop the carcass so it can drain.

If you intend to leave the carcass while you go back to camp for help, be sure to prop the body cavity open with some short sticks. If you can manage, hang it in a tree or on a tripod made of poles so the air can circulate freely around it. Draping it over a log or pile of rocks will help if you can't get any higher off the ground, but leave it with the belly side up so body heat can rise freely and not become trapped inside. Getting the meat cooled before bacterial action can start is the most important thing to remember about caring for wild meat.

Whether or not you should skin the carcass in the field is also open for discussion, and about the most important thing to be said on the subject is that quick skinning will aid in cooling the meat quickly. This is especially true on a very large animal. The hide will protect the meat while you're packing it back to camp, though, so on the smaller big game animals it's largely up to the individual. Once the carcass has cooled thoroughly, however, you might as well leave the hide on. It will keep the meat clean and insulate it from the heat of the day.

At the first opportunity you should trim away the clotted blood from bullet holes, since meat which is shot up is quick to spoil and is likely to give a strong flavor to the good meat around it. It's better to waste a little good meat by trimming too much than to let clotted blood ruin everything near it.

When you get around to skinning the carcass, you'll find it's not particularly difficult, although before you finish you'll wish you had stronger fingers. You'll also need a sharp knife and a stone to keep it that way. Most hunters hang the game by its hind legs while they're skinning it, and start by cutting the skin around the lower part of the legs, then slitting it down to the crotch. Once you get started peeling the hide off you'll find it easiest to pull with one hand while you use the knife in the other to cut loose the difficult places. You'll also find that in many places the back of your knife will loosen the hide enough so that you can pull it off with your hands and not have to cut.

The hide is well worth saving, so avoid cutting into it. After you've removed it, scrape the flesh and fat off and salt it thoroughly. Then roll it up with the flesh sides together.

Your game meat should be kept dry, but the notion that water will ruin it wherever it touches is a bit misleading. If you want to use a wet cloth to clean off the hair, blood and other dirt, go ahead: just be sure you dry the meat quickly afterwards.

By DR. J. J. MURRAY Lexington, Virginia

OME years ago a couple of friends and I were on a trip to the Back Bay section of Princess Anne County. We had stopped by the side of the road to eat our lunch, when suddenly a big bird crossed a patch of open sky between two great pines. It was only a glimpse that we had but enough to show us that it was a bald eagle. No other bird shows such freedom of the air. Soon it came into sight again above the trees, circling higher and higher, its white head and tail gleaming in the sunlight. Most of the time soaring, sometimes flying with powerful wing beats, but always with the utmost ease and assurance, the eagle climbed until finally it disappeared into the clouds.

The story of the bald eagle in the United States is a sad one. We early chose this majestic bird as our national symbol. Since then we have treated it like an enemy and an alien and done our best to destroy it. It seems now to be a disappearing bird. In our new state of Alaska particularly it has been relentlessly persecuted, partly out of wantonness and partly because of the senseless opposition of the fishing interests. At least in our eastern states we are now beginning to learn better and to give at least fair protection to our national bird.

The greatest threat to the existence of the eagle, however, is not direct persecution but the pressure of our population. The development of beach resorts all along our coast and the multiplication of suburban districts are rapidly depriving it of any place where it can safely nest. Even in Florida, which has always been one of its chief strongholds, suitable nesting habitat is fast disappearing.

The bald eagle builds a huge nest in the top of a tall tree, adding material year after year until the nest may be six feet or more across and as many feet high. The fact that, if unmolested, the bird will use the same nest for many years makes the destruction of a nest tree even more tragic. It usually lays two large white eggs, sometimes only one, occasionally three or four. Immature eagles are dark all over, the shining white head and tail not being attained until some time in the fourth year.

Nesting is very early, as early even as Thanksgiving in Florida, and by mid-February in Virginia. In our state it nests along the coast and along Chesapeake Bay, up the Potomac to the vicinity of Washington, and up the James and other tidal rivers.

The principal food of the eagle is fish, some of which it catches for itself, more of which it either takes from the osprey or finds dead on the beaches. It also takes small mammals. Sometimes, especially farther south, it kills waterfowl,

Some have mocked at the eagle because it steals so much of its food, but such was ever the way of robber barons. Benjamin Franklin thought it a coward when he saw the little kingbird chase it, but what large bird will not flee from an angry kingbird? Audubon grieved that it had ever been chosen as our national bird; but most of us are well content that in its grace and power this bird of wild freedom can symbolize America.

7he Bald Eagle



Edited by DOROTHY ALLEN



Richmond Newspapers Photo
Congressman J. Vaughan Gary congratulates
F. F. A. member Dillard Franklin for winning
forestry project competition.

Dillard Franklin Is Virginia Forestry Winner

Dillard Franklin of Appomattox was winner of the annual co-operative forestry improvement program sponsored by the Seaboard Air Line Railroad and the F. F. A. Franklin's winning project included the planting of 28,000 seedlings, timber improvement cuts on 25 acres, and control of hardwood on eight acres. In addition, the youth harvested and sold 61 cords of pulpwood. 3,960 board feet of sawlogs, harvested 222 fence posts and 31 cords of fuel wood. He also has participated in soil conservation projects on his family's 165-acre farm in eastern Appomattox county and developed wildlife areas.

Franklin, with five other state winners, made an East Coast tour and attended the National Future Farmers of America convention in Kansas City, Missouri, recently as guests of the railroad.

You, too, may be a winner! Enter the following contests NOW if you have not done so.

Keep Virginia Green Poster Contest

The 10th annual Keep Virginia Green poster contest, offering \$1,000 in prizes, is now underway. Its theme is "Water Is Important, Plant More Trees."

This contest, sponsored by the Virginia Forests Inc., and the Virginia Building Material Association, is open to all school students and will end on December 31.

Wildlife Essay Contest

"Why Legal Hunting and Fishing are Good Conservation Practices" is the theme of the 15th annual Wildlife Essay Contest sponsored by the Virginia Commission of Game and Inland Fisheries and the Virginia Division of the Izaak Walton League of America. This contest is endorsed by the Virginia Resource-Use Education Council and the Resource-Use Education Committee of the Virginia Academy of Science, A total of \$2,900 in cash prizes will be awarded. Students of all Virginia schools, grades 5-12 inclusive, are eligible. If your school has not entered, have your teacher send for an official entry card to the Commission of Game and Inland Fisheries, Box 1642, Richmond 13. Virginia. Entries must be postmarked not later than January 31, 1962. So far 188 schools with a total of 63, 925 eligible students have entered.

Christmas Trees

Most of Virginia's Christmas trees are shipped in. There seems to be a preference for balsam fir and spruce here and these trees usually are found in a cooler northern climate. Some spruce and fir do grow on the higher mountain areas in Virginia.

The more abundant home-grown red cedar is to a limited extent used as a Christmas tree. However, its needles are small and it sheds more quickly than other needled trees. More and more, pine trees are being adorned with tinsel and lights for the holiday season. Virginia pine, white pine, and red pine are becoming popular Christmas trees.

In normal Christmas tree sizes it is not always easy to tell one evergreen from another because small trees often do not have fruit (cone or berries) which is helpful in identification. However, by the needles (leaves) and their arrangement on the twig and the buds you can often identify the tree.

If you buy or are lucky enough to get out and cut your own tree, store it in a cool, shady place with the butt end placed in water until you are ready to trim it. Cutting the butt on the diagonal about an inch above the original cut will aid in the absorption of water.



Richmond Newspapers Photo David Martin with Tom Lewis (left) and Governor Almond.

Scottsville Youth Honored

David Martin, 14, of Scottsville, sucked the venom from a copperhead bite from the ankle of Tom Lewis, director of the second wildlife region of the Kentucky Department of Fish and Wildlife Resources. His courageous act was recognized recently by Governor Almond.

Last August, Lewis was fishing in Rock Island Creek, not far from the Martin home, when he was bitten by a 40-inch copperhead. Hearing a call for help. David investigated and found Lewis lying on the ground. David got down beside Lewis, put his mouth to the wound and withdrew the poison, perhaps saving Lewis' life. It took a great deal of courage for David to do this. The poison could have entered his bloodstream through a small cut inside his mouth or through a bad tooth.

Lewis wrote Governor Almond and suggested that David be given some recognition for helping a fellow man regardless of the personal risk involved. The Governor presented the Buckingham boy with a special certificate of commendation and a subscription to Virginia Wildlife at a ceremony in his office prior to having lunch with David and his parents, Mr. and Mrs. Marion Martin, at the Governor's mansion.



Virginia Gets 6,000 More Foreign Game Birds

Some 3,000 foreign game birds of several varieties were liberated by the Game Commission in a number of eastern Virginia counties this past fall and a like number are being held at the Cumberland Experimental Game Farm for release in the same area next spring, Game Biologist Herman J. Tuttle reports.

In September, pheasants of the Imperial Valley ringneck-Iranian blackneck cross group were released in Fluvanna, Nelson, Nottoway and Prince George counties, and Japanese green pheasants were liberated on the Eastern Shore.

"Pure strain" eastern and western Iranian blackneck pheasants were released in New Kent and Orange counties in October, as were birds of the eastern and western "back cross" pheasant groups in Richmond and King George counties.

Reports from the release areas indicated that the pheasants had a successful breeding season and seem to be becoming established locally, Tuttle said. He emphasized that closed season on pheasants will be in effect in Virginia until it is decided that the birds being introduced on an experimental basis have become well enough established to withstand an open gunning season.



This handsome trophy, bagged by G. E. Mullins of Roanoke last November 23 in Highland County, took first place in the Western Virginia Regional Big Game Trophy Contest in Harrisonburg in October.

The Mighty Hunter Returneth She has welcomed him home from the

he has welcomed him home from the marsh

And helped him take off his boots; The challenge that's facing her now Is cooking his one brace of coots.

-Gladys B. Cutler





BEAR FACT AND FICTION—The plaster track casts at left were made by C. W. Henley of Short Pump in western Henrico County (near Richmond) to prove that there was a bear roaming that area in October. Game warden S. W. Breed also reported a bear in nearby Goochland County (and an albino deer, to boot). The dogs apparently running from the bear at right were actually frightened by flashbulbs; the bear, shot in Craig County by H. C. Crawford of New Castle, was mounted in this lifelike pose by W. M. Grisso of Roanoke.

Starnes Replaces Oliver as State Game Manager; Ferguson Resigns

A. Welch Starnes of Goldbond, Virginia. began work as state game manager position on October 1 on the Jefferson National Forest, replacing Lon Oliver, who retired recently, and Game Manager Curtis R. Ferguson of Sugar Grove resigned on September 16. according to commission game division chief Richard H. Cross, Jr.

Starnes. 26, attended Wise Technical School in Wise, Virginia, and had been employed as deputy sheriff in Scott County. He is married and has two children.

Ferguson, 46, had been with the commission since May 1, 1953.

Virginia Mammal Book Still Available

There are still available a limited number of copies of Bailey's *The Mammals of Virginia*, which was published in 1946 and sold for \$5 a copy. The book has long been out of print, but copies may be procured directly from the author, John Wendell Bailey, 27

Willway Road, Richmond 26, Virginia, at \$2.50 per copy; postage paid. This publication contains 432 pages, including 99 illustrations, descriptions and life histories of all wild and domestic mammals and a list of fossil mammals.

"Bull and Bear" and Possum

In October, a real Virginia opossum joined the symbolic bulls and bears on the New York Stock Exchange.

The marsupial was shipped to Walter Coleman, Assistant Director of the exchange's Department of Member Firms, by Richard E. Howell, Vice-President of the Peoples National Bank of Lynchburg.

On a business trip to Virginia last spring, Nelson mentioned his boyhood days had been spent hunting possum in the hills of Nelson County near Lynchburg. He remarked, "I certainly would like to taste possum again."

The fat and sassy possum was delivered to Nelson on the floor of the exchange. Perhaps now, at those times when the market's "bulls and bears" are inactive, we can call the market "playing possum."

DECEMBER, 1961



Edited by JIM KERRICK

Lifesaving Gear A Boating 'Must'

There's a whale of a lot more to good boat handling than assuming a statuesque pose at the tiller or nonchalantly flipping a key on the control panel of a power boat. This "more" is knowledge of good seamanship, says the Allstate Insurance Companies' accident prevention director.

Knowledge that the sailboat has the right of way over the power boat means the difference between a safe passage and finding yourself perched high and dry on the bow of a sailboat.

To learn the answers to many other similar questions that will face you every time you go skimming along the water, take a course in small craft operation from the United States Power Squadrons, Coast Guard Auxiliary or Red Cross. Each has local units throughout the country which you can contact.

Some more "do's" . . . Do practice proper boating techniques under the eye of an experienced operator before taking the helm alone. Do know the meanings of buoys, running lights and passing signals of other boats. Do keep an alert lookout for other boats and objects in the water which could damage your hull or foul your propeller.

Water Sports Can Cause Accidents

Water sports enthusiasts who use a boat to pursue their favorite pastime should observe certain safeguards. Many boat accidents have actually resulted from carelessness while swimming, fishing and water skiing, rather than from boating itself.

When swimming from a small boat, slide in instead of diving, Also, anchor your boat and keep a boarding line or ladder handy. Stay near your boat. Swimmers are hard to see when there is glare on the water or when the water gets choppy.

Before taking a dip from a motorboat, make sure the motor is off, That way you won't risk the chance of a



A wnite flag with a red diagonal stripe flanked by a pair of red water skis indicates that the boat flying it is engaged in water skiing. Approach with caution.

spinning propeller making mincemeat out of you.

If you're fishing, cast from a sitting position as close to the center line of the boat as possible. This will minimize the danger of capsizing.

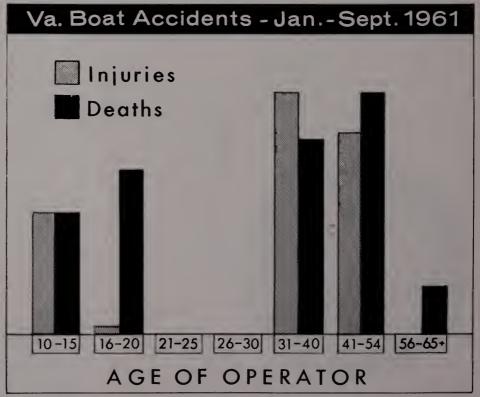
In towing a water skier, take another person along to observe and help the skier you're pulling. Your attention should be concentrated on steering.

Registration Number Stays With Boat

Purchasers of used boats should check with the boats' former owners or with their dealers regarding registration of the boats they buy. Many boat owners seem to feel that once they receive their boat numbers, the numbers become their personal property. When selling their boats, they remove the numbers, and new owners then register the boats again.

This is not only unlawful, but costs the new owner four dollars more than it would according to lawful procedure. The law states: "Should the ownership of a motor boat change, a new application form with fee of one dollar shall be filed with the Commission and a new certificate bearing the same number shall be awarded in the manner as provided in an original award of number."

Boat owners must report any change in status and return certificates of number within 15 days,



Flying in the face of national statistics which attribute more accidents to boat operators of ages 25-29 than any other age group, State Game Commission records show that no operators of ages 21-30 were involved in the 51 reported accidents which took 28 lives in Virginia through September of this year. Younger and older operators were responsible.

LETTERS

(Continued from page 3)

I WAS very pleased to find your recent article regarding the early squirrel season in Virginia. Personally, I am in favor of delaying this season for at least 30 days beyond the present opening date here of September 15. I know the Commission is concerned with this problem and will make the best possible decision when the time comes.

I read VIRGINIA WILDLIFE regularly and enjoy especially the bits of poetry and verse you publish occasionally.

Charles K. Stallard Wise, Virginia

I HAVE read your editorial in the October issue of VIRGINIA WILDLIFE regarding the question of opening the small game season one or two weeks before the deer season. I endorse heartily this proposal, but suggest that the season on small game be opened at least two weeks prior to the opening of deer season.

As you are aware undoubtedly, we quail hunters are penalized severely by the deer season opening concurrently with the small game season. The deer dogs scatter the quail, make them so wild that they will not hold for a bird dog, and drive them deeply into the woods. The present law which closes deer season about two weeks before the small game season is of little benefit to us quail hunters because the deer dogs have already done irreparable damage to our sport continuously for approximately two months. The bird hunters in the Scottsville area feel very strongly about this question. Accordingly, we shall appreciate your informing the Commission of Game and Inland Fisheries of our deep feeling in this matter.

Incidentally, 1 am a new subscriber to VIRGINIA WILDLIFE. I wish to take this opportunity to commend you and your staff for a most excellent publication.

B. N. Barnes Scottsville, Virginia

THE Virginia Wildlife Federation appreciates your publishing our resolution on "having small game season open two weeks before deer season," in the October issue of the VIRGINIA WILDLIFE. Our board at its recent annual meeting at Mountain Lake Hotel in Giles County reaffirmed our stand on this resolution. We will have a representative at the spring meeting of the Commission when the hunting regulations are set.

The Virginia Wildlife Federation is made up of a large percentage of the sportsman clubs of the state of Virginia, with a membership of several thousand men.

Glenn R. Frum, President Virginia Wildlife Federation Fairfax, Virginia

AFTER reading the editorial in the October issue of VIRGINIA WILDLIFE, I want to let you know that I am much in favor of an earlier small game season, especially for the area west of the Blue Ridge Mountains. I also believe it would be in order to divide the state into at least two zones. My preference,

for squirrel season at least, is about the middle of October.

Ezra C. Shenk Harrisonburg, Virginia

IN answer to the editorial in the October issue of Virginia Wildlife on opening of the game hunting season, we fully concur!

We suggest opening the small game season on or about the first of November and the large game season around the first of December.

> John L. Reynolds, Jr., Wade H. Mays, Wilson B. Newell, Luther T. Weadon, Jr., Dudley T. Bowling, W. J. Powell, D. L. Dalton, H. L. Suley, K. D. Stowe, W. C. White Danville, Virginia

IN answer to your "Early Small Game Season," I believe in equal rights. If you allow the small game hunter to go in the national forests to hunt early, you are giving in to a bunch of game hogs that want to kill all they can of the small game instead of giving the game an equal chance. I believe they are a selfish bunch and will kill deer or any other game they can illegally, causing more trouble for our game wardens.

Think of the people that like to kill a squirrel or a grouse or some other small game while hunting deer. It would be a sad hunting trip if I couldn't see a squirrel while I wait for a deer.

Claude W. Bentley Blanchester, Ohio

We'll carry another page of letters on this subject next month.—Ed.



Hawks Counted In Southwest, Too

I ENJOYED the September stories on hawk migrations. But you do not seem to be aware of large migrations through Southwestern Virginia. As usual, our end of the state has been overlooked. Let me challenge in part the statement, "There appears to be no area in Virginia where the hawks funnel through as they do in some of the northern areas where each such high counts are made."

Virginia may not match the records of the northern states, but we in the southwest have much larger flights than you record over the Shenandoah, On September 25, I counted 442 broad-winged hawks in a single day, together with 11 other hawks, a total of 453, from the Mendota Fire Tower on Clinch Mountain near Bristol. This tower is in Virginia, although not far from Tennessee. On September 19, 1959, T. W. Finucane of Kingsport, Tennessee, counted 1,184 broadwinged hawks there in a single day. Single day's counts of 300-500 are not uncommon at this tower. Counts of between 500 and 800 have been recorded several times. The 1,184 count is, I believe, a record for that tower. In any event we can count in a single good day more hawks than the year's total for the Shenandoah mountains, and in a single year more than their 10 years' total.

Most of this data is recorded by the Tennessee Ornithological Society, which seems to be why the Virginia clubs are unaware of it. It has been printed annually in the *Migrant*, a publication of the Tennessee Ornithological Society.

Holmes Rolston, III Bristol, Virginia

I AM a 15-year-old subscriber to your wonderful magazine to which I have subscribed for the past three years. I have examined other wildlife magazines published in other states and I find VIRGINIA WILDLIFE superior in materials and workmanship as well as in contents.

I find your articles on boating safety and the ones dealing with a report on a particular animal very interesting. I like to call myself a student ornithologist, as I became interested in birds four years ago. I found your articles on observations on hawk migrations in the Shenandoah Mountains by Max Carpenter and George Harrison in the September issue very good. Your magazine is also very useful in teaching nature and conservation at summer Scout camp.

Robert Anderson Norfolk, Virginia

Interested In Gobbler Hunts

WE read and enjoy your magazine very much. Am serving on a N. C. committee whose object is to improve our turkey hunting. Especially enjoyed your recent article on gobbler hunts.

John Entwistle, President Richmond County Wildlife Club Rockingham, North Carolina

From A Happy Taxpayer

I WOULD like for you people at the Commission to know that there exists at least one happy taxpayer. Anytime I get hot under the collar about what's going on in Richmond I just pick up a copy of WILDLIFE. When I see how well spent my money is and think how much more hunting pleasure the Commission has brought back to Virginia, it cools me right off. For my money you are doing a fine job; keep it up.

Boyd L. Williams, Jr. Hampton, Virginia

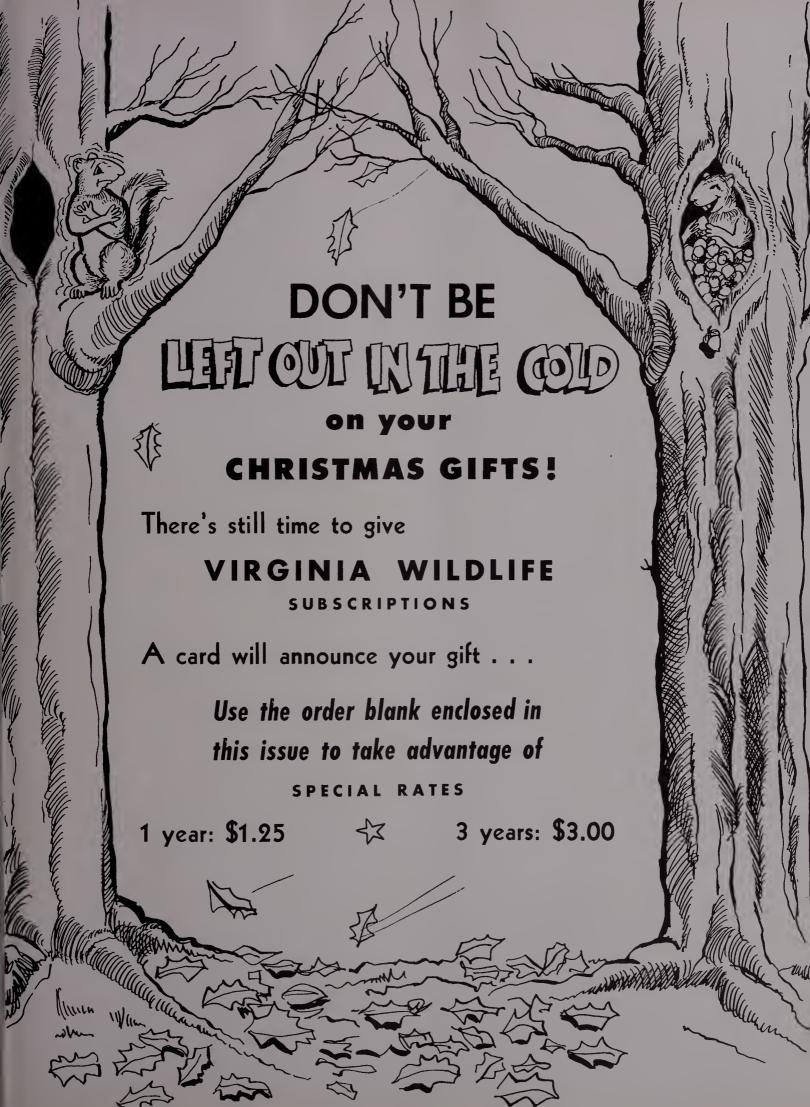
Correspondent Williams is undoubtedly aware that the Game Commission is not a general fund agency, but operates solely on funds received from the sale of hunting and fishing licenses and from federal excise taxes on sporting equipment.—Ed.

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THE EYES OF WILDLIFE



Owls are unique among birds in having their eyes placed on the front of the head, permitting binocular vision even at close range.



A transparent nictating membrane protects flying birds' eyes from dust, twigs, and other hazards.



Due to his subterranean existence, the mole's eyes have degenerated to an unusual degree. It is doubtful if he can do more than distinguish light from dark.



There's a reason for the frog's bulging eyes. See what convenient periscopes they make?



"Eagle-eyed" is an apt term. Birds of prey possess what is probably the keenest longrange vision known.



This bobcat, like many nocturnal creatures, has eyes that adjust admirably to extreme light conditions. The pupil is small and eliptical in bright light, large and round in dim light.



Having no movable eyelids, snakes' eyes are protected by transparent shields. These are shed several times a year with the skin.



Some insects have compound eyes made up of many simple eyes combined in one. To find his insect prey nature has equipped the dragonfly with a pair of compound eyes each of which consist of more than 20,000 simple eyes.



The woodcock's big eyes are situated near the back of the head, enabling the bird to keep a sharp lookout while probing the soil for worms.



Like many prey species, the eyes of the rabbit bulge from both sides of the narrow head providing a wide radius of vision.



When danger threatens,
the bittern points his
bill to the sky, thereby
blending with the reeds
of his marshy habitat. Due
to the positioning of his
eyes, his vision is unimpaired.